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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,000	06/03/2002	Vinod Kamath	RPS920020045US1	7198

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EXAMINER

PATEL, NIHIR B

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/064,000	Applicant(s) KAMATH ET AL.	
	Examiner Nihir Patel	Art Unit 3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on February 17th, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-7 is/are rejected.
- 7) ☒ Claim(s) 2-4 and 8-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06.03.02</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 11-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species (figures 4-6), there being no allowable generic or linking claim. Election was made **without** traverse in Paper No 02172004.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Feenstra US Patent No. 5,781,411. Feenstra discloses a heat sink utilizing the chimney effect that comprises a heat conducting base plate 102 (see figures 1-4; column 3 lines 20-30); a plurality of heat conducting pin-fins 104 (see figures 1, 2, and 4; column lines 10-20), each of said pin-fins having a free end and an attachment end (see figure 1), the attachment end of each of said pin-fins being attached to said base plate (see figure 1), each of said pin-fins having an intake opening wherein the intake opening is oriented to admit cooling fluid moving in a first direction substantially parallel to said base plate 110 (see figures 1, 3, and 4; column 3 lines 10-20), each of said pin-fins having a discharge opening for discharging cooling fluid (see figures 1, 3, and 4; column 3 lines 10-20), each of said pin-fins having a tubular channel extending from the intake opening to the discharge opening (see column 3 lines 35-45).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Feenstra US Patent No. 5,781,411 in view of Tantoush US Patent No. 6,666,260. Referring to claim 1, Feenstra discloses the applicant's invention as claimed with the exception of providing a forced convection cooling.

Tantoush discloses a scalable and modular heat sink heat pipe cooling system that states that a heat sink having projecting fins or legs to increase the surface area of the heat sink for heat dissipation to the surrounding area either through free convection or forced convection (fan driven) cooling. Therefore it would be obvious to modify Feenstra's invention by providing a forced convection (fan driven) cooling in order to improve the heat transfer process.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feenstra US Patent No. 5,781,411 in view of Li US Patent No. 6,478,082. Referring to claim 5, Feenstra discloses the applicant's invention as claimed with the exception of providing a baffle adjacent the free end of each of the fin-fins and substantially parallel to the base plate for ducting cooling fluid between the base plate and the baffle.

Li discloses a heat dissipating apparatus with nest wind duct that does provide a baffle adjacent the free end of each of the fin-fins and substantially parallel to the base plate for ducting cooling fluid between the base plate and the baffle. Therefore it would be obvious to modify

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Feenstra's invention by providing a baffle adjacent the free end of each of the fin-fins and substantially parallel to the base plate for ducting cooling fluid between the base plate and the baffle in order to improve the heat transfer process.

Referring to claim 6, Feenstra discloses the applicant's invention as claimed with the exception of providing a first baffle adjacent the free end of each of the pin-fins and substantially parallel to the base plate; and a second and third baffles positioned substantially parallel to the first direction and substantially perpendicular to the first baffle; wherein cooling fluid from the pump system is ducted between the first, second and third baffles and discharged from the ducting system in substantially the first direction.

Li discloses a heat dissipating apparatus with nest wind duct that does provide a first baffle adjacent the free end of each of the pin-fins and substantially parallel to the base plate; and a second and third baffles positioned substantially parallel to the first direction and substantially perpendicular to the first baffle; wherein cooling fluid from the pump system is ducted between the first, second and third baffles and discharged from the ducting system in substantially the first direction. Therefore it would be obvious to modify Feenstra's invention by providing a first baffle adjacent the free end of each of the pin-fins and substantially parallel to the base plate; and a second and third baffles positioned substantially parallel to the first direction and substantially perpendicular to the first baffle; wherein cooling fluid from the pump system is ducted between the first, second and third baffles and discharged from the ducting system in substantially the first direction in order to improve the heat transfer process.

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Allowable Subject Matter

4. Claims 2 through 4 and 8 through 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Nihir Patel whose telephone number is (703) 306-3463. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful the examiner supervisor Henry Bennett can be reached at (703) 308-0101.

NP
March 4th, 2004


Henry Bennett
Supervisory Patent Examiner
Group 3700